

# Glossary

**14 CFR.** See Title 14 of the Code of Federal Regulations.

**Acceptable risk.** That part of identified risk that is allowed to persist without further engineering or management action. Making this decision is a difficult yet necessary responsibility of the managing activity. This decision is made with full knowledge that it is the user who is exposed to this risk.

**ADM.** See aeronautical decision-making.

**Aeronautical decision-making.** A systematic approach to the mental process used consistently by pilots to determine the best course of action in response to a given set of circumstances. It is what a pilot intends to do based on the latest information he or she has.

**Aerodynamics.** The science of the action of air on an object, and with the motion of air on other gases. Aerodynamics deals with the production of lift by the aircraft, the relative wind, and the atmosphere.

**Aircraft.** A device that is used, or intended to be used, for flight.

**A/FD.** See Airport/Facility Directory.

**Airplane Flight Manual (AFM).** A document developed by the airplane manufacturer and approved by the Federal Aviation Administration (FAA). It is specific to a particular make and model airplane by serial number, and it contains operating procedures and limitations.

**Airport/Facility Directory (A/FD).** An FAA publication containing information on all airports, communications, and NAVAIDs.

**ATC.** Air Traffic Control.

**Attitude management.** The ability to recognize hazardous attitudes in oneself and the willingness to modify them as necessary through the application of an appropriate antidote thought.

**Automated Surface Observing System (ASOS).** Weather reporting system which provides surface observations every minute via digitized voice broadcasts and printed reports.

**Automated Weather Observing System (AWOS).** Automated weather reporting system consisting of various sensors, a processor, a computer-generated voice subsystem, and a transmitter to broadcast weather data.

**Automatic terminal information service (ATIS).** The continuous broadcast of recorded non-control information in selected terminal areas. Its purpose is to improve controller effectiveness and relieve frequency congestion by automating repetitive transmission of essential but routine information.

**Autopilot.** An automatic flight control system that keeps an aircraft in level flight or on a set course. Automatic pilots can be directed by the pilot, or they may be coupled to a radio navigation signal.

**Aviation medical examiner (AME).** A physician with training in aviation medicine designated by the Civil Aerospace Medical Institute (CAMI).

**Aviation Routine Weather Report (METAR).** Observation of current surface weather reported in a standard international format.

**AWOS.** See Automated Weather Observing System.

**Checklist.** A tool that is used as a human factors aid in aviation safety. It is a systematic and sequential list of all operations that must be performed to accomplish a task properly.

**Controlled flight into terrain (CFIT).** An accident whereby an airworthy aircraft, under pilot control, inadvertently flies into terrain, an obstacle, or water.

**Course.** The intended direction of flight in the horizontal plane measured in degrees from north.

**Crew resource management (CRM).** The application of team management concepts in the flight deck environment. It was initially known as cockpit resource management, but as CRM programs evolved to include cabin crews, maintenance personnel, and others, the phrase “crew resource management” was adopted. This includes single pilots, as in most general aviation aircraft. Pilots of small aircraft, as well as crews of larger aircraft, must make effective use of all available resources: human, hardware, and information. A current definition includes all groups routinely working with the flight crew who are involved in decisions required to operate a flight safely. These groups include, but are not limited to pilots, dispatchers, cabin crewmembers, maintenance personnel, and air traffic controllers. CRM is one way of addressing the challenge of optimizing the human/machine interface and accompanying interpersonal activities.

**CRM.** See crew resource management.

**DA.** See decision altitude.

**Dead reckoning.** Navigation of an airplane solely by means of computations based on airspeed, course, heading, wind direction and speed, groundspeed, and elapsed time.

**Decision altitude (DA).** A specified altitude in the precision approach, charted in feet MSL, at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

**Decision height (DH).** A specified altitude in the precision approach, charted in height above threshold elevation, at which a decision must be made either to continue the approach or to execute a missed approach.

**DH.** See decision height.

**Direct User Access Terminal System (DUATS).** A system that provides current FAA weather and flight plan filing services to certified civil pilots via personal computer, modem, or telephone access to the system. Pilots can request specific types of weather briefings and other pertinent data for planned flights.

**DUATS.** See direct user access terminal system.

**EFAS.** See En Route Flight Advisory Service.

**EFD.** See electronic flight display.

**Electronic flight display (EFD).** For the purpose of standardization, any flight instrument display that uses LCD or other image-producing system (cathode ray tube (CRT), etc.)

**Emergency.** A distress or urgent condition.

**En Route Flight Advisory Service (EFAS).** An en route weather-only AFSS service.

**External pressures.** Influences external to the flight that create a sense of pressure to complete a flight—often at the expense of safety.

**FAA.** Federal Aviation Administration.

**Federal Aviation Administration (FAA).** An agency of the United States Department of Transportation with authority to regulate and oversee all aspects of civil aviation in the United States.

**Flight director indicator (FDI).** One of the major components of a flight director system, it provides steering commands that the pilot (or the autopilot, if coupled) follows.

**Flight level (FL).** A measure of altitude (in hundreds of feet) used by aircraft flying above 18,000 feet with the altimeter set at 29.92 "Hg.

**Flight management system (FMS).** Provides pilot and crew with highly accurate and automatic long-range navigation capability, blending available inputs from long- and short-range sensors.

**Flightpath.** The line, course, or track along which an aircraft is flying or is intended to be flown.

**FMS.** See flight management system.

**General aviation.** All flights other than military and scheduled airline flights, both private and commercial.

**GPS Landing System (GLS).** An instrument approach with lateral and vertical guidance with integrity limits (similar to barometric vertical navigation (Baro VNAV)).

**Global Navigation Satellite System (GNSS).** Satellite navigation system that provides autonomous geospatial positioning with global coverage. It allows small electronic receivers to determine their location (longitude, latitude, and altitude) to within a few meters using time signals transmitted along a line of sight by radio from satellites.

**Global positioning system (GPS).** Navigation system that uses satellite rather than ground-based transmitters for location information.

**GLS.** See GPS Landing System.

**GNSS.** See Global Navigation Satellite System.

**GPS.** See Global Positioning System.

**Hazard.** A present condition, event, object, or circumstance that could lead to or contribute to an unplanned or undesired event, such as an accident. It is a source of danger. For example, a nick in the propeller represents a hazard.

**Hazardous attitudes.** Five aeronautical decision-making attitudes that may contribute to poor pilot judgment: anti-authority, impulsivity, invulnerability, macho, and resignation.

**Hazardous Inflight Weather Advisory Service (HIWAS).** Service providing recorded weather forecasts broadcast to airborne pilots over selected VORs.

**Human behavior.** The product of factors that cause people to act in predictable ways.

**Human factors.** A multidisciplinary field encompassing the behavioral and social sciences, engineering, and physiology, to consider the variables that influence individual and crew performance for the purpose of optimizing human performance and reducing errors.

**Hypoxia.** A state of oxygen deficiency in the body sufficient to impair functions of the brain and other organs.

**Identified risk.** Risk that has been determined through various analysis techniques. The first task of system safety is to identify, within practical limitations, all possible risks.

**IFR.** See instrument flight rules.

**IMC.** See instrument meteorological conditions.

**Instrument flight rules (IFR).** Rules and regulations established by the Federal Aviation Administration to govern flight under conditions in which flight by outside visual reference is not safe. IFR flight depends upon flying by reference to instruments in the flight deck, and navigation is accomplished by reference to electronic signals.

**Instrument landing system (ILS).** An electronic system that provides both horizontal and vertical guidance to a specific runway, used to execute a precision instrument approach procedure.

**Instrument meteorological conditions (IMC).** Meteorological conditions expressed in terms of visibility, distance from clouds, and ceiling less than the minimums specified for visual meteorological conditions, requiring operations to be conducted under IFR.

**Judgment.** The mental process of recognizing and analyzing all pertinent information in a particular situation, a rational evaluation of alternative actions in response to it, and a timely decision on which action to take.

**Mean sea level.** The average height of the surface of the sea at a particular location for all stages of the tide over a 19-year period.

**MFD.** See multifunction display.

**MSL.** See mean sea level.

**Multifunction display (MFD).** Small screen (CRT or LCD) in an aircraft that can be used to display information to the pilot in numerous configurable ways. Often an MFD will be used in concert with a primary flight display.

**National Transportation Safety Board (NTSB).** A United States Government independent organization responsible for investigations of accidents involving aviation, highways, waterways, pipelines, and railroads in the United States. NTSB is charged by congress to investigate every civil aviation accident in the United States.

**NAVAID.** Navigational aid.

**NM.** Nautical mile.

**NOTAM.** See Notice to Airmen.

**Notice to Airmen (NOTAM).** A notice filed with an aviation authority to alert aircraft pilots of any hazards en route or at a specific location. The authority in turn provides means of disseminating relevant NOTAMs to pilots.

**NTSB.** See National Transportation Safety Board.

**Optical illusion.** A misleading visual image. For the purpose of this handbook, the term refers to the brain's misinterpretation of features on the ground associated with landing, which causes a pilot to misread the spatial relationships between the aircraft and the runway.

**Orientation.** Awareness of the position of the aircraft and of oneself in relation to a specific reference point.

**Personality.** The embodiment of personal traits and characteristics of an individual that are set at a very early age and extremely resistant to change.

**PFD.** See primary flight display.

**PIC.** See pilot in command.

**Pilotage.** Navigation by visual reference to landmarks.

**Pilot error.** An accident in which an action or decision made by the pilot was the cause or a contributing factor that led to the accident.

**Pilot in command (PIC).** The pilot responsible for the operation and safety of an aircraft.

**Pilot report (PIREP).** Report of meteorological phenomena encountered by aircraft.

**Pilot's Operating Handbook/Airplane Flight Manual (POH/AFM).** Published by the airframe manufacturer, FAA-approved documents that list the operating conditions for a particular model of aircraft.

**PIREP.** See pilot report.

**POH/AFM.** See Pilot's Operating Handbook/Airplane Flight Manual.

**Poor judgment chain.** A series of mistakes that may lead to an accident or incident. Two basic principles generally associated with the creation of a poor judgment chain are: (1) one bad decision often leads to another; and (2) as a string of bad decisions grows, it reduces the number of subsequent alternatives for continued safe flight. ADM is intended to break the poor judgment chain before it can cause an accident or incident.

**Primary flight display (PFD).** A display that provides increased situational awareness to the pilot by replacing the traditional six instruments used for instrument flight with an easy-to-scan display that provides the horizon, airspeed, altitude, vertical speed, trend, trim, and rate of turn among other key relevant indications.

**Residual risk.** Risk left over after system safety efforts have been fully employed. It is not necessarily the same as acceptable risk. Residual risk is the sum of acceptable risk and unidentified risk. This is the total risk passed on to the user.

**Risk.** The future impact of a hazard that is not eliminated or controlled.

**Risk assessment.** An approach to managing uncertainty. Risk assessment is a quantitative value assigned to a task, action, or event.

**Risk elements.** There are four fundamental risk elements in aviation: the pilot, the aircraft, the environment, and the external pressures that comprise any given aviation situation.

**Risk management.** The part of the decision-making process which relies on situational awareness, problem recognition, and good judgment to reduce risks associated with each flight.

**Single-pilot resource management (SRM).** The ability for a pilot to manage all resources effectively to ensure the outcome of the flight is successful.

**Situational awareness.** Pilot knowledge of where the aircraft is in regard to location, air traffic control, weather, regulations, aircraft status, and other factors that may affect flight.

**Spatial disorientation.** The state of confusion due to misleading information being sent to the brain from various sensory organs, resulting in a lack of awareness of the aircraft position in relation to a specific reference point.

**SRM.** See single-pilot resource management.

**Stall.** A rapid decrease in lift caused by the separation of airflow from the wing's surface, brought on by exceeding the critical angle of attack. A stall can occur at any pitch attitude or airspeed.

**Stress.** The body's response to demands placed upon it.

**Stress management.** The personal analysis of the kinds of stress experienced while flying, the application of appropriate stress assessment tools, and other coping mechanisms.

**Title 14 of the Code of Federal Regulations (14 CFR).** Includes what was formerly known as the Federal Aviation Regulations governing the operation of aircraft, airways, and airmen.

**Total risk.** The sum of identified and unidentified risks.

**Unacceptable risk.** Risk that cannot be tolerated by the managing activity. It is a subset of identified risk that must be eliminated or controlled

**Unidentified risk.** Risk not yet identified. Some unidentified risks are subsequently identified when a mishap occurs. Some risk is never known.

**Very-high frequency (VHF).** A band of radio frequencies falling between 30 and 300 MHz.

**Very-high frequency omnidirectional range (VOR).** Electronic navigation equipment in which the flight deck instrument identifies the radial or line from the VOR station, measured in degrees clockwise from magnetic north, along which the aircraft is located.

**VFR.** See visual flight rules.

**Visual approach slope indicator (VASI).** A visual aid of lights arranged to provide descent guidance information during the approach to the runway. A pilot on the correct glideslope will see red lights over white lights.

**Visual flight rules (VFR).** Flight rules adopted by the FAA governing aircraft flight using visual references. VFR operations specify the amount of ceiling and the visibility the pilot must have in order to operate according to these rules. When the weather conditions are such that the pilot can not operate according to VFR, he or she must use instrument flight rules (IFR).

**Visual meteorological conditions (VMC).** Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling meeting or exceeding the minimums specified for VFR.

**VMC.** See visual meteorological conditions.



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